Hospital Management Dataset

Analysis

Wireframe Documentation

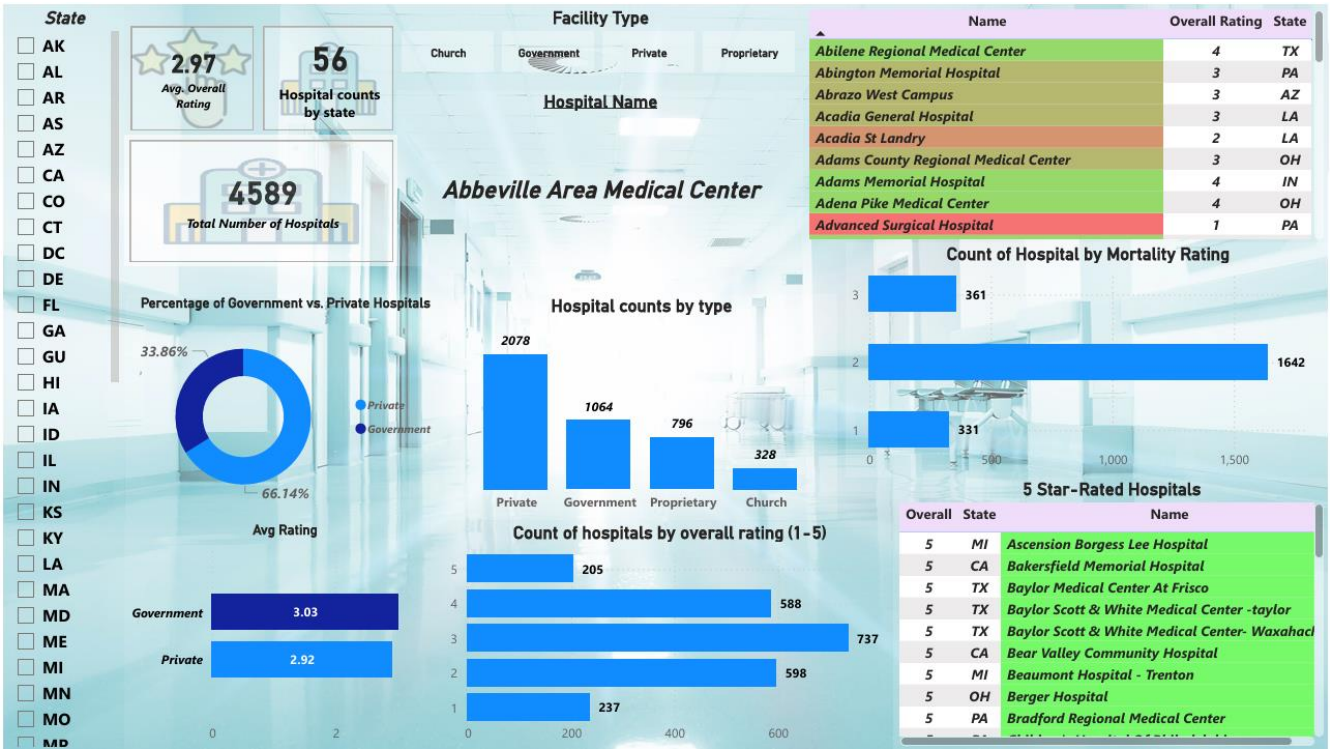
By

AMAN RAJBHAR

Homepage

we have divided analysis into three Pages: -

Page 2 Hospital Overview and Ratings:



In this section we designed our first dashboard and tried to interpret the followings:

KPI Cards:

- **Font Size**: Large for easy visibility.
- **Layout**: Displayed in a horizontal row at the top for quick access to key metrics.

Filters (State Selection):

- **Type**: Vertical filter option on the left sidebar.
- **Purpose**: Dynamic filtering of all charts and tables based on the selected state.

Tables:

- **Purpose**: Tables are used to show detailed data, such as hospital names, ratings, and states.
- **Interaction**: Scrollable, with the ability to sort columns for easier data navigation.

Pie Chart:

- **Purpose**: Provides a high-level view of the distribution of hospitals by ownership type.
- **Interaction**: May allow users to drill down by clicking on sections to filter other dashboard elements by hospital type.

Bar Charts:

- **Purpose**: Used for clear comparisons across categories, such as hospital counts by type, overall ratings, or mortality ratings.
- **Interaction**: Bars can be clicked to filter other visuals and data tables.

Color Coding:

- **Hospital Ratings**: Different colors are used to highlight hospitals with varying ratings, improving visual clarity.

Key Features:

Interactivity:

- The dashboard allows users to filter data by state and drill down into specific details.
- Bar charts and pie charts are interactive, allowing for a deeper exploration of the dataset.

Visual Clarity:

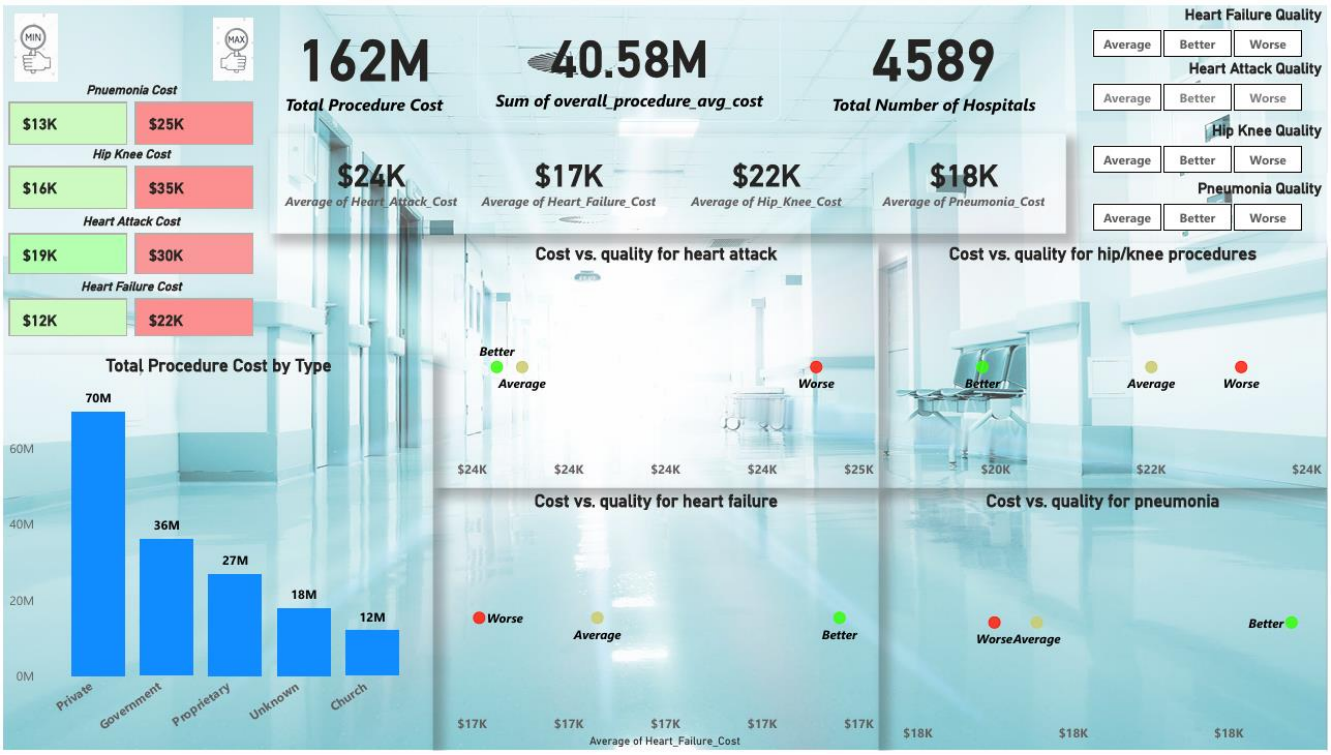
- The use of KPI cards provides immediate insights into key metrics such as the total number of hospitals and average ratings.

- The combination of bar charts and pie charts makes it easy to compare different metrics like hospital type distribution and overall ratings.

Tables for Detailed Insights:

- Tables are used to display a large volume of data in a structured format. This is especially helpful for displaying hospital names and ratings in a way that can be sorted or filtered.

Page 2: Cost vs. Quality for Procedures



KPI Cards:

- **Purpose**: Displays essential numeric data, allowing users to quickly gauge key metrics.
- **Interaction**: Static, showing summary data for quick interpretation.

Procedure Cost Min/Max Values:

- **Purpose**: A set of stacked boxes on the left that provides users with quick access to minimum and maximum costs for specific conditions.
- **Interaction**: Static, purely informational.

Bar Chart - Total Procedure Cost by Type:

- **Purpose**: A bar chart providing a visual comparison of total procedure costs by hospital type (e.g., Private, Government, Church).
- **Interaction**: Can be interactive, allowing users to click on bars and drill down into specific types of procedures.

Scatter Plots (Cost vs. Quality):

- **Purpose**: Scatter plots illustrate the relationship between average costs and quality for each medical condition (heart attack, heart failure, etc.).
- **Interaction**: Plots may allow zooming in or filtering based on cost ranges, or hover functionality for more detailed data on each plotted point.

Quality Indicator Buttons:

- **Purpose**: These buttons allow users to filter the scatter plots based on the quality rating for each condition (heart attack, heart failure, etc.).
- **Interaction**: Clicking a quality level filters the scatter plots, updating them with corresponding data points (e.g., only showing hospitals with “Better” outcomes).

Key Features:

Visual Summary:

- KPI cards at the top provide an immediate snapshot of total and average costs, ensuring quick access to critical information.

Interactive Cost and Quality Comparisons:

- Scatter plots present a visual comparison between procedure costs and the corresponding quality of care, providing users with insights into how spending relates to health outcomes.

Cost Distribution for Different Conditions:

- Bar and scatter plots offer a clear distribution of procedure costs for specific conditions and hospital types, making it easy for users to identify trends.

State Selection Filters:

- While not explicitly shown, this dashboard could benefit from having a state or hospital type filter (e.g., private, government), allowing users to narrow down results based on regional or ownership criteria.

Page 3: Performance and Quality Insights :

- **KPI cards** at the top offer a clear snapshot of average hospital performance in mortality, readmission, and safety.
- **Hospital List** on the left provides a performance breakdown for specific hospitals based on their ratings in imaging, timeliness, and safety.
- **Procedure Costs by Facility Type** (line graph) in the lower-right shows a visual comparison of total costs for heart attacks, heart failure, hip/knee procedures, and pneumonia, segmented by facility ownership type.
- **Ratings Overview**: Boxes summarizing the number of hospitals with 1-star or 3-star ratings across different quality measures such as mortality, safety, timeliness, and readmission.

Key Features:

- **KPI Cards:** Display Average statistics of mortality, readmission, and safety ratings.
- **Interactive Potential:** The line graph showing procedure costs could allow users to hover over lines for more detailed cost breakdowns or toggle specific conditions to isolate certain cost categories.
- **Color-Coded Ratings Table:** Red (1-star) and green (3-star) provide an intuitive way to quickly identify hospital performance.
- **Cost Comparisons:** The graph provides insight into the varying costs across facility types for the most common procedures.